State of California
CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
LOS ANGELES REGION

ORDER NO. R4-2006-XXXX

ISSUANCE OF A TIME SCHEDULE ORDER

DIRECTING
THE CITY OF SAN BUENAVENTURA TO
COMPLY WITH THE REQUIREMENTS PRESCRIBED IN ORDER NO. 00-143
(Ventura Water Reclamation Facility)
(NPDES PERMIT NO. CA0053651)

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The California Regional Water Quality Control Board, Los Angeles Region (hereafter Regional Board), finds:

1. The City of San Buenaventura (City) owns and operates the Ventura Water Reclamation Facility (Ventura WRF) located at 1400 Spinnaker Drive, Ventura. The Ventura WRF discharges tertiary treated wastewater to the Santa Clara River Estuary (Estuary) under Waste Discharge Requirements contained in Order No. 00-143, adopted by this Regional Board on October 12, 2000. Order No. 00-143 also serves as a permit under the National Pollutant Discharge Elimination System (NPDES Permit No. CA0053651).

2. In May 1996, the City submitted Phase 1 of the NPDES Limit Achievability Study (Study), which identified new permit limits that could not be immediately complied with. This Study also determined if certain source control actions applied to controllable discharges could reduce discharge concentrations below effluent limits contained in the permit. The Study indicated that the City was in compliance with most limits. However, the following pollutants were problematic: dichlorobromomethane, copper, lead, nickel, and zinc.

   Zinc appeared to be the only problem pollutant that could be reduced in concentration by source control actions. Zinc orthophosphate was used as a corrosion control additive in the water supply and the substitution of another chemical compound proved successful.

   Dichlorobromomethane results from the addition of chlorine used in the disinfection process and cannot be reduced in concentration with the current treatment process. Currently, the City is using ammonia addition for control of organochlorimine.

   Concentrations of copper, lead, and nickel cannot be controlled by source control actions.

3. Order No. 00-143 contains the following effluent limits for copper based on the California Toxics Rule's (CTR) saltwater aquatic life criteria, which is more stringent than that for freshwater:

Constituent	Units	Monthly Average	Daily Maximum
Copper	µg/L	2.0	2.9

The City could not comply immediately with the copper limits. Therefore, concurrent with Order No. 00-143 adopted on October 12, 2000, the Regional Board issued a Time Schedule Order (TSO) (Order No. 00-144). This TSO was amended four times (Order Nos. 01-058, R4-2002-0195, R4-2003-0059, and R4-2004-0095), and ultimately provided the City until September 10, 2005, to achieve compliance. A summary of each TSO and their associated study results are listed below:

A. Time Schedule Order No. 00-144, adopted on October 12, 2000:

a. Comply with the following deadlines:

Task		Due Date
i.	Design a Water Effects Ratio Study, recalculation procedure, a Resident Species Procedure, or translator study for consideration and approval/disapproval by the Executive Officer for copper.	January 1, 2001
ii.	Complete the study approved by the Executive Officer.	January 1, 2002
iii.	Achieve full compliance with the copper limitation.	October 12, 2002

b. Submit quarterly progress reports to describe the progress of the approved study and to report on efforts to achieve compliance with the limits in Order No. 00-143 by October 12, 2002.

c. Comply immediately with the following interim effluent limit for copper specified in Order No. 00-144:

Constituent	Units	Monthly Average	Daily Maximum
Copper	µg/L	18	52

In the interim, the TSO requires the City to comply with interim limits based on the freshwater aquatic criteria. The City had 9 violations on copper interim limits between June 2001 and June 2002.

d. Study results

i. Metal Translator Study and Salinity Profile indicate the following:

- Metal concentrations entering the study area from upstream closely approximate those found in the treated wastewater. Nickel concentrations are slightly lower in the treated wastewater; zinc concentrations appear to be slightly higher; copper concentrations appear to be approximately the same; and lead was not detected.

TENTATIVE

- The salinity in the Estuary is predominantly below the saltwater threshold of 10 parts per thousand, but is over the freshwater threshold of 1 part per thousand 95% of the time according to the definition in 40 CFR Part 131 (California Toxics Rule). However, salinity levels fluctuate considerably, approaching freshwater levels during periods when the mouth of the lagoon is closed, but increasing to levels of 10 parts per thousand or higher when the lagoon is open to ocean water influence.

- The ability of the City to be in compliance with the copper limits is not significantly improved by the addition of a site-specific translator when applying the saltwater water quality criteria.

ii. The *Resident Species Study* indicates that the species composition in ecosystem of the Estuary currently tends toward **freshwater** conditions. However, some saltwater species also exist.

B. Order No. 01-058, adopted on April 26, 2001, Amending Time Schedule Order No. 00-144:

This Order amended Order No. 00-144, extended the submittal due date of the above-mentioned study (see Finding 3.A.a.) from January 1, 2001 to March 1, 2001. This Order also extended the study completion date from January 1, 2002 to July 1, 2002 to accommodate a 14-month study period. The date to achieve full compliance with the copper limitation was not extended and remained at October 12, 2002.

C. Order No. R4-2002-0195, adopted on December 12, 2002, Amending Time Schedule Order No. 00-144:

Regional Board staff would like to evaluate other studies available on the Estuary, evaluate impacts on effluent limitations of other constituents, recalculate the reasonable potential analyses and effluent limitations, and consult with resource agencies and other interested parties before submitting recommendations to the Board regarding the request of the City. Therefore, to provide adequate time for Regional Board staff to undertake these activities, staff proposes to extend the compliance date from October 12, 2002, to March 31, 2002.

D. Order No. R4-2003-0059, adopted on April 3, 2003, Amending Time Schedule Order No. R4-2002-0195:

a. Conduct the following tasks according to their corresponding completion dates:

Task	Due Date
i. Design and submit a detailed Work Plan for the Updated Enhancement Study on the Santa Clara River Estuary for approval by the Executive Officer.	July 1, 2003

T E N T A T I V E

ii.	Submit the first-year preliminary report of an Updated Enhancement Study according to the Work Plan approved by the Executive Officer	June 1, 2004
	Submit the final report of an Updated Enhancement Study for approval by the Executive Officer.	May 1, 2005
iii.	Achieve full compliance with the copper limitations.	September 10, 2005

b. Submit semi-annual reports describing the progress of the approved study and the City's efforts to achieve compliance by September 10, 2005, with the copper limits in Order No. 00-143.

c. If the Updated Enhancement Study demonstrates that the wastewater discharge from the Ventura WRP does benefit the Estuary, then the discharge into the Estuary would be permitted to continue, and also, depending on study conclusions, the fresh water criteria would be applied to calculate the final copper effluent numeric limitations.

d. Comply immediately with the following interim effluent limits for copper:

Constituent	Units	Monthly Average	Daily Maximum
Copper	µg/L	18	52

E. Time Schedule Order No. R4-2004-0095, adopted on April 28, 2004, rescinding Time Schedule Order Nos. 00-144, 01-058, R4-2002-0195, and R4-2003-0059:

a. Conduct the following tasks according to their corresponding completion dates:

Task		Due Date
i.	Follow-up and add lead, mercury, nickel, selenium, zinc, cyanide, and aldrin to the existing biological task within the Work Plan that supports issuance of this Time Schedule Order;	June 11, 2004
ii.	Submit the final report of an Updated Enhancement Study for approval by the Executive Officer; and	May 1, 2005
iii.	Achieve full compliance with the final lead, mercury, copper, nickel, selenium, zinc, cyanide, and aldrin limitations.	September 10, 2005

b. Submit semi-annual reports describing the progress of the approved study and the City's efforts to achieve compliance by September 10, 2005, with the copper, lead, mercury, nickel, selenium, zinc, cyanide, and aldrin limits in Order No. 00-143. Semi-annual reports shall be submitted by the first day in the months of April and October. The first report will be due on October 1, 2004.

c. Comply immediately with the following interim effluent limits:

Constituent	Units	Monthly Average[i]	Daily Maximum[i]
Copper	µg/L	36[ii]	---
Lead	µg/L	63[iii]	68
Mercury	µg/L	1.3	1.6
Nickel	µg/L	66[iv]	---
Selenium	µg/L	55[v]	---
Zinc	µg/L	123	149
Cyanide	µg/L	11	13
Aldrin	µg/L	0.14	0.19

i. In most cases, the Interim effluent limits, based on effluent data collected from July 1995 to December 1999, were derived statistically at 95 and 99% confidence levels for monthly average and daily maximum, respectively. However, some statistically-derived interim limits would not be able to be met, because the data were not normally distributed. In this case, the maximum effluent concentration (MEC) would be applied as interim limits.

ii. The MEC for copper, 36 µg/L, was chosen as the interim effluent limit, because the interim monthly average and daily maximum, 25 and 31 µg/L, respectively, were less than the MEC.

iii. The MEC for lead, 63 µg/L, was chosen as the interim effluent limit, because the interim monthly average, 42 µg/L, was less than the MEC. The calculation of interim effluent limits was based on effluent data collected from July 1995 to December 2003, because effluent data were reported as “non-detect” from July 1995 to December 1999.

iv. The MEC for nickel, 66 µg/L, was chosen as the interim effluent limit, because the interim monthly average and daily maximum, 37 and 55 µg/L, respectively, were less than the MEC.

v. The MEC for selenium, 55 µg/L, was chosen as the interim effluent limit, because the interim monthly average and daily maximum, 37 and 48 µg/L, respectively, were less than the MEC.

d. If the Updated Enhancement Study demonstrates that the wastewater discharge from the Ventura WRP does benefit the Estuary, then either the fresh water or human health-organisms only criteria would be applied to calculate the final copper, lead, mercury, nickel, selenium, zinc, cyanide, and aldrin effluent numerical limitations.

e. All other provisions and requirements of Order No. 00-143 not in conflict with this Order remain in full force and effect.

TENTATIVE

f. The Discharger's conclusions from their Updated Enhancement Study are as follows:

i. Habitat

- The discharge channel supports freshwater marsh habitat.
- The discharge channel provides a continuous source of water during breach outflow events when the lagoon drains.
- The discharge channel provides side-channel habitat during outflow events.
- Current habitat (water and substrate quality) is consistent with requirements of tidewater goby.

ii. Water Quality

- Effluent from the Ventura WRF is of higher-quality water in terms of both total dissolved solids and contaminant loads, compared with urban, agricultural, and groundwater inputs to the lagoon. Because the analysis of historical data indicates no relationship between effluent toxicity and metal concentrations. In addition, over 100 toxicity tests were conducted on water samples from lagoon. Approximately 10% of the samples exhibited toxicity, with most of the toxicity occurring during stormwater or dry weather outflow events, suggesting that upstream (urban and agriculture) and groundwater sources are of concern. No toxicity was observed during a dry weather period when the lagoon was full; this condition would correspond with maximum influence of Ventura WRF on water quality in lagoon.
- Copper, Zinc, and Nickel are not accumulating in the sediment and are not associated with toxicity in the Estuary environment, based upon 11 sediment samples individually collected in October 2003 and March 2004. The toxicity tests were performed according to methods presented in USEPA (1994a) and PSEP (1995) for the amphipod and mussel tests, respectively.

iii. Hydrology

- Discharge from the Ventura WRF makes up a portion of water that historically flowed to the Estuary but is now appropriated for uses upstream. More importantly, it provides most, if not all of the water to the Estuary during summer dry periods.
- Under current conditions, the discharge is responsible for berm breaching that occurs during the summer months, improving lagoon circulation and flushing.

Regional Board staff are in the process of reviewing the conclusions of this Study. The Study will be forwarded to Resource Agencies and Interested Parties for their review. The conclusions (including the determination of whether enhancement has been demonstrated, as well as whether freshwater or saltwater criteria are more applicable) will be incorporated into a tentative renewal of the NPDES Permit, as appropriate, to be brought before the Board during the Fall 2006.

To date, the City has made timely submittals of all technical reports required by this Regional Board through its TSOs and continuously updates her facilities in order to comply the final effluent limits (see Finding No. 5).

4. The preamble to the California Toxics Rule (CTR) provides that the most stringent water quality criteria, including freshwater aquatic life, saltwater aquatic life, and human health-organisms only criteria, shall be applied in calculating numerical limitations. Order No. 00-143 contains the following final effluent limits for copper, nickel, and zinc based on the CTR's most stringent criteria, which are saltwater aquatic life:

Constituent	Units	Monthly Average	Daily Maximum
Copper[2]	µg/L	2.0	2.9
Nickel[2]	µg/L	5.3	15.2
Zinc[2]	µg/L	38	95

The recent effluent data show that the City cannot immediately comply with the final copper, nickel, and zinc limits. Therefore, the City requests a TSO with interim limits and a compliance schedule to achieve compliance until the NPDES Permit can be renewed.

5. The City of Ventura has installed temporary facilities for improved primary clarifier performance since the first quarter of 2003, this addition of Iron salt has improved removal of copper, nickel, and zinc by approximately 50% (see data below). Permanent facilities for iron salt addition are currently in design phase with construction anticipated for completion in the summer of 2006.

Constituent	Units	Monthly Average before Installation (October 2000 to December 2002)	Monthly Average after Installation (January 2003 to August 2005)
Copper	µg/L	18	8.1
Nickel	µg/L	9.7	4.3
Zinc	µg/L	69	38

6. This enforcement action is being taken for the protection of the environment and as such is exempt from the provisions of the California Environmental Quality Act (Public Resources Code, Section 21100, et.seq.) in accordance with Section 15321, Chapter 3, Title 14, California Code of Regulations.

7. Pursuant to California Water Code Section 13320, any aggrieved party may seek review of this Order by filing a petition with the State Board. A petition must be sent to the State Water Resources Control Board, 1001 I Street, Sacramento, CA 95814.

T E N T A T I V E

The Board notified the City of San Buenaventura and interested agencies and persons of its intent to issue this Time Schedule Order.

The Board, in a public hearing, heard and considered all testimony pertinent to this matter. All orders, studies, and other document referred to above and records of hearings and testimony therein are included herein by reference as part of the administrative record.

IT IS HEREBY ORDERED that pursuant to the California Water Code section 13300, the City of San Buenaventura, as operator of the Ventura Water Reclamation Facility, shall:

1. Comply immediately with the following interim effluent limits:

Constituent	Units	Monthly Average[A]	Daily Maximum[A]
Copper[B]	µg/L	13	16
Nickel[C]	µg/L	9.3	15
Zinc[B]	µg/L	62	72

   A. The interim effluent limits, based on effluent data collected from January 2003 to August 2005, were derived statistically at 95 and 99% confidence levels using Minitab software for monthly average and daily maximum, respectively.

   B. The monthly average and daily maximum effluent concentrations are based upon normal distribution.

   C. The monthly average and daily maximum effluent concentrations are based upon lognormal distribution.

2. The above interim limits are effective from **March 9, 2006** and will expire on December 31, 2006 in order for Regional Board staff to renew the NPDES permit. If the current NPDES Permit Order No. 00-143 is renewed and adopted prior to December 31, 2006, then TSO No. R4-2006-XXXX automatically expires on the same date of the effectively reissued NPDES Permit.

3. The City shall report the information of the updated installation of primary clarifier facility on April 1, 2006, July 1, 2006, October 1, 2006 to the Regional Board.

4. All other provisions and requirements of Order No. 00-143 not in conflict with this Order remain in full force and effect.

I, Jonathan S. Bishop, Executive Officer, do hereby certify that the foregoing is a full, true and correct copy of an order adopted by the California Regional Water Quality Control Board, Los Angeles Region, on March 9, 2006.

Jonathan S. Bishop
Executive Officer

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